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ABSTRACT

In an effort to establish the domain of organizational communication (OC), this paper defines variables, presents models of their relationships, explains the three dominant approaches to OC, and proposes ways to test their competing claims. Having defined characteristic, causal, and result variables, the paper stresses the importance of establishing whether communication behavior is deliberate, intentional, and purposeful, or the much more limited result of coping mechanisms. Next it presents the three dominant approaches to OC--Instrumental, Process, and Functional--and proposes how the predicted effects of each approach could be used to construct variables that will test the approaches' domain claims. The paper then describes the three criteria for the measurement of variables--utility, validity, and reliability--and reviews the four methods used in OC research: survey questionnaire, interview, experiment, and observation. The paper concludes that the resolution of domain issues will provide an understanding of the genuine significance of OC, or even its lack of significance. (JL)

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MEASURING ORGANIZATIONAL COMMUNICATION VARIABLES

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MEASURING ORGANIZATIONAL COMMUNICATION VARIABLES

One of the basic issues facing researchers in Organizational Communication (O.C.) is the question of domain. Specifically, what constitutes research in O.C.? Bibliographers generally take a very broad view of the field. Voos (1967) listed more than 300 references, Carter (1972) more than 1000 references, Rogers, Flaningam, and Horan (1975) more than 300, and Greenbaum, Falcione, et al (1974 on) list between 400 and 800 citations annually. Some reviewers such as Thayer (1967), Redding (1972), and Farace, Taylor, and Stewart (1978) also take the broad view and cover large numbers of studies. But other reviewers such as Guetzkow (1965), Porter and Roberts (1976), and O'Reilly and Pandy (1979) take a very narrow view of the area, discuss fewer than 50 studies, and conclude that not much research has been done in proportion to the significance of O.C.

To a large extent the differences of opinion over the domain of O.C. stem from the longstanding difficulty that researchers have had in agreeing on a common definition of O.C. As Rogers (1978) noted in his review of O.C. textbooks there was not one single topic that was covered in every text and most topics were covered in fewer than half the texts. In an introductory overview, Goldhaber (1979, p. 13) concluded, "It is apparent that definitions, approaches to, and perceptions of organizational communication are legion," While we do not wish to propose another definition, for the purposes of this paper we will assume that O.C. has two dimensions. The first is an information dimension which includes the content of organizational messages and symbols, the meaning of this information, and its uses. The second dimension is an interaction dimension which includes the processes of sharing and exchanging information, the patterns of these organizational interactions, and their functions. Both of these dimensions occur over time in the context of an organization and its environment.

The intent of this paper is to address the domain issue by focusing on communication variables which may be observed in organizational contexts and which

either influence or are influenced by organizational processes. To this end we will discuss the general concept of variables in organizational research, the dominant approaches to conceptualizing O.C. from which the variables arise, specific variables which could be, are, or should be studied, and possible strategies for measuring these variables.

The Concept of Variables

According to Stone (1978) there are three related ideas which underlie the notion of a variable. These are concepts, constructs, and variables. Chaplin (1975, p. 105) defines a concept as, "an idea which combines several elements from different sources into a single notion." For example, O.C. is a concept. O.C. is the idea that a number of different kinds of behaviors such as superior-subordinate interactions, information flows, bulletin boards, disclosure policies, committee meetings, etc. are all special cases of a more general process--namely Organizational Communication. Accordingly, the concept of O.C. includes all of the communication activities, behaviors, and processes which take place in an organizational context. Or as Hurt (1976) graphically put it, "O.C. is people talking in air conditioned buildings." Whereas the concept identifies the general form of activity under consideration, the construct is an idea created by the researcher to describe some phenomenon which cannot be directly observed. Concepts describe entities, activities, processes, or behaviors which can be observed. Constructs describe activities or processes which must be inferred from the situation. For example, Communication Openness is a construct. In an organizational setting we cannot directly observe openness, but we can observe people listening to one another or not listening, people asking for feedback or not asking, people offering suggestions or not offering them, people using new ideas or not using them. From these kinds of behavior we can infer that communication openness does or does not exist.

Variables are derived from concepts and constructs. According to Stone

(1978, p. 22) they are "symbols which take on differing values." When we set out to measure variables we are actually measuring variability which is an attribute of an entity (person, organization, group) or process (disclosure, openness, interaction). This attribute can have different values, but it has only one value for a specific entity or process in a specific situation. For example, communication frequency is a variable. The frequency of contacts, conversations, or discussions among a group can be counted. The number of these contacts is the communication frequency. While the range of possible values for this number is very large, for any specific work group, studied for a specific time, there is only one (1) number which accurately represents the frequency of contacts among the group members. The process of determining the value of that number is referred to as Measuring the Variable.

When we are measuring O.C. variables we are somewhat arbitrarily assigning values to constructs inferred from observed behaviors or to concepts synthesized from disparate activities. The process of measuring O.C. variables, of necessity, operates on a very abstract level. Our subject matter is vague, imprecise, ambiguous, and uncertain. Remember that when we study communication in an organizational context the phenomenon we are interested in is not a form of objective behavior but a form of symbolic behavior. It is the intentional act of a self directed free will. It is rich with all of the subtlety and complexity of language, expression, gesture, culture and occasion. This makes it hard to measure O.C. variables. Measurement is even harder when we have not clearly identified the nature, the operation, or the appearance of the variable we are trying to study.

To put this problem into perspective we need to remember that there are different kinds of variables with different theoretical implications. The three kinds of variables most important to O.C. research are characteristic variables, causal variables, and result variables. Characteristic variables are the relevant conditions of our unit of study. For example, if we are

studying an individual the relevant characteristics may include age, sex, length of service, intelligence, verbal ability, honesty, openness, or apprehensiveness. For a group the variables may include size, longevity, cohesiveness, selectivity, or openness. For an organization the variables may include integration, openness, differentiation, size, and so on. In a sense the characteristic variables are the givens, the variables that we do not expect to change in value for the duration of our study. Causal variables are the independent factors which bring about changes in our unit of study. For example, when we take an individual with a history of sexually harassing behaviors and expose that person to information about the negative consequences of sexual harassment (personal and organizational) we would expect a change in the individual's behavior. The causal variable is the amount of negative information received assimilated, and acted upon. Result variables are the outcomes, or effects of characteristic and causal variables. For example, organizational innovation is at least in part a result of exposure to information.

In any given study a particular variable is either a characteristic, causal, or result variable. That is, we expect the variable to remain constant, we expect to change the variable, or we expect the variable to change in response to other changes. Obviously we should expect one and only one of these things to happen in a given study and we should design our research project accordingly. Beyond the single study, however, we can study an O.C. variable as characteristics (what is the degree of communication openness?), causal (what happens when we change the degree of communication openness?), or result (how do changes in group/organizational size affect the degree of communication openness?). Whatever the specific use of an O.C. variable the general models of the relationships among kinds of variables are unchanged. These general models are:

Model I: Given characteristic variable (C), as change in causal variable (X), should lead to a change in result variable (Y).

Model II: A given value characteristic variable (C) should be associated with a given value of result variable (Y).

Both models of course make the "all other things being equal" assumption.

When we put our O.C. variables into one of these models we are better able to examine the theoretical implications of the variable. When we have a clearly articulated model of the relationships among variables we can conduct two different tests of the variable. First of all we can test the effects of the variable on the organization. Suppose we want to examine the effects of a large number of isolates in a communication network. An isolate is a person who has a relatively small amount of interaction with other people in the organization. Using Model I we might propose this hypothesis:

> Given an organization with 100 members (C), increasing the number of isolates (X), should reduce the total integration of the communication network (Y).

A similar hypothesis derived from Model II might be:

> The larger the percentage of isolates in a communication network (C), the lower the total integration of the network (Y) will be.

Obviously we can test either of these hypotheses. To do so we need to measure the number of isolates and the degree of integration of the total network (e.g. the ratio of actual number of interactions to the potential number of interactions). To test the Model I hypothesis we increase the number of isolates by isolating them from organizational information and see what effect this has on the total number of interactions in the organization. To test the Model II hypothesis we correlate the percentage of isolates with the integration ratio in a number of organizations. This is the most common type of test of

a variable in organizational research.

Not only can we test the effects of variables, but we can also conduct a second test of the variables themselves. If we call one of our variables a characteristic variable we are saying that its value will not change significantly during the course of our study. A simple pre & post test will help us to determine whether this assumption is appropriate. If we use a variable as a result we are saying that its value will change in relation to changes in other values. To test this assumption we can use the pre & post test to determine if change has taken place and a correlation analysis to relate changes in the value of the Y value to changes in other values. If one of our variables is to be a causal variable we are assuming that by changing the value of the variable we will affect the values of other variables. To test this assumption we can perform a manipulation check to see whether the value of the X variable actually changed. Knowing whether the variables in our study behaved as they were supposed to can help us to understand not only what effects were produced but <u>how</u> those effects were produced. Knowing how communication produces its effects can lead us to more comprehensive theories of O.C. and of organizations in general.

APPROACHES TO ORGANIZATIONAL COMMUNICATION

Understanding the concept of a variable leads us to question where O.C. variables come from. In other words, what are the dominant approaches to conceptualizing O.C. that give rise to specific variables. While there are a great many individual approaches to viewing O.C. (remember the definitional problem) these approaches generally fall into one of three categories: the Instrumental Approach, the Process Approach, and the Functional Approach. Before we discuss these approaches a more general issue about the domain of O.C. needs to be raised. Namely, is O.C. theory to be grounded primarily in the behavior of individual actors or in the structure and dynamics of the

organization? At first glance this issue may seem to be no more than a question of whether we should take a micro or macro perspective on O.C., but it is much more. Most students of O.C. have had to grapple with the question of intent and have concluded that organizational communication behavior is, in fact, deliberate, intentional, and purposeful (although not always rational). It involves the behavior of people who are not merely perceiving and reacting to their environment, but who are actively attempting to influence that environment to their own ends. Given this view people participate in interactions, share information, and generally use O.C. to get their work done, make their lives easier, increase their intrinsic and extrinsic rewards, develop cooperative and competitive strategies, design their organization's structure, etc. On the other hand, if we view O.C. patterns as coping mechanisms developed in response to the constraints imposed by organizational and environmental factors, then O.C. behavior is much more limited in scope and significance. The domain issue is a question of how much significance we wish to attach to O.C. If we wish to agree with Barnard (1938) that communication is central to any theory of organization, then we are attaching a great deal of significance to O.C., we are claiming a very large domain of effect for O.C., and we are going to have to generate research to defend that claim. To this time our research is provocative, but it just doesn't support a claim of great significance or a large domain of theoretical importance. If we are going to claim that O.C. is important and references to O.C. principles can explain a wide variety of organizational phenomena, then we are going to have to be prepared to defend those claims.

Not all of the approaches to O.C. make such grand claims. The instrumental approach to O.C. views communication as a tool (hence the nickname: Tool School) which can be used in specific situations to produce desired but limited effects. In a general instrumental model of O.C. a speaker or writer manipulates environmental and/or communication variables to elicit a desired response from an

audience. Figure 1 graphically illustrates the general nature of this model. According to this model O.C. usually occurs within an environment of organizationally defined relationships and occasions (e.g. sales presentations, appraisal interviews, committee meetings, contract negotiations, budget proposals, job search campaigns, research reports, etc.). The individuals in these situations are assumed to have personal and organizational objectives (sometimes in conflict) which they are trying to achieve. Usually this means that they want a particular response from some individual or group (e.g. they want the customer to buy, the boss to approve their budget, the interviewer to hire them, etc.). According to Goyer (1970) within this type of model effective communication occurs to the extent that the actual response made by the other party approximates the desired response of the communicator. The function of O.C. research within the instrumental framework is to develop and test principles, generalizations, rules, laws, etc. which individuals can use to make their communication more effective and increase the probability that they will achieve the desired responses, but only within the limits of the occasion. A goodly amount of research has been conducted from this perspective. For example, Dahle's (1954) study of the relative effectiveness of various methods of transmitting information to employees, Weaver's (1958) study of semantic barriers to effective labor-management communication, Meyer, Kay, and French's (1965) study of the dual interview (one focusing on pay, the other on performance improvement) approach to performance appraisal, Migliore's (1970) study of the effects of work results feedback on job performance, Porterfield's (1976) study of the effects of emotion on message interpretation, Rogers and Sincoff's (1978) study of factors contributing to positive evaluations of campus recruiters, and Anderson and Level's (1980) study of the effects of task and administrative information job performance.

While the above list is by no means comprehensive, it suggests that the instrumental approach to O.C. research has been around for a long time and is

still influencing the selection of research questions. Without question the instrumental approach is the dominant one when it comes to O.C. textbooks (see Rogers, 1977). The instrumental approach is very pragmatic, very practical, and very results oriented. It is understandingly appealing to business students and practitioners. By viewing communication as a tool, it limits the domain of study to those occasions when communication activities directly affect the outcome. From the instrumental perspective the basic question of O.C. research is "How to best use communication."

Whereas the instrumental approach takes a very narrow view of the domain of O.C., the Process Approach takes a very broad view. The Process Approach sees communication as the most common form of organizational behavior, the most important process in determining organizational functioning, and the very essence of organizational existance. In the process view communication influences every form of organizational activity. In its most radical formulations communication influences every organizational activity, or every organizational activity <u>is</u> a form of communication. Obviously an approach which encompasses everything without limit explains nothing very well. Thus the most common variants of the Process Approach are milder than the radical extreme. In a general Process model of O.C. communication processes indirectly or directly influence most other organizational processes. At the core of this approach is the notion, derived from Barnard (1938), Wiener (1948), and Simon (1947), that information and interaction are essential to goal setting, decision making, and control. Figure 2 illustrates the general nature of this model. In the Process Model, O.C. occurs not as a part of organizational relationships or occasions but whenever and wherever people are receiving, gathering, exchanging, or sharing organizationally relevant information. The individuals in these situations are generally assumed to be free agents performing organizational roles. Communication activities are seen as a (if not <u>the</u>) critical part of these roles. For the advocates of the Process Approach

it is impossible to conceive of an organization without communication. As Barnard (1938, p. 91) argued, "...The structure, extensiveness, and scope of the organization are almost entirely determined by communication techniques." At the core of the Process Approach is the notion that O.C. involves a pattern of interactions or contacts which people engage in for the purpose of gathering and exchanging information which is useful to them in their jobs (the organizational effects), their social relations (the interpersonal effects), and their careers (the individual effects).

Although it isn't a hard-and-fast distinction, the Process view tends to be receiver centered (how can I use this information), where the instrumental view tends to be source centered (how can the audience be influenced). This distinction can be seen in the literature. O.C. Process research tends to focus on large numbers of employees (rather than specific occasions) and attempts to correlate their interaction patterns and information processing with other processes. Much of this research tries to describe the O.C. patterns of the organization, but with the idea of eventually determining the effects of these patterns. Some examples of this kind of research are Leavitt's (1951) experimental studies of the effects of communication structures on speed, accuracy, organization, leadership, and morale, Burns' (1954) study of communication patterns in an executive group, Indik, Georgopoulos, and Seashore's (1961) study of the effects of open communication on job performance and organizational effectiveness, Allen and Cohen's (1969) study of the effects of information flow on research and development activities, Schuler's (1977) study of relationships between communication, role perceptions, satisfaction and performance, and Downs' (1977) studies of the relationship between communication and job satisfaction. Again, this is not a comprehensive list.

The Process Approach is analytical, descriptive, very sophisticated, and oriented to theoretical explanations of phenomena. It has great appeal to scholars and researchers. By viewing communication as the link which holds

organizations together and allows them to function, it encompasses a domain of study which includes all of the internal processes of an organization. The basic O.C. research question of the Process Approach is "What relationship exists between communication and other organizational processes?"

The third, and by far newest approach, to O.C. is the Functional Approach. The Functional Approach (or Functions Approach) sees communication as one of many processes which make up the dynamics of an organization. The structure of the organization, the constraints of its environment, and the limits of its resources affect the specific patterns of communication which will emerge. But within those limits communication will evolve and perform several unique functions within the organization. In the Functional Approach communication is seen as doing things for the organization which would not be done otherwise. In the general Functional Model communication provides the means for coordinating the activities of people and integrating them into a unified whole (the Integration Function), for providing the information people need to do their jobs and regulating their expectations about performance, norms, sanctions, and rewards (the Control Function), and for providing the stimulation to improve performance, develop new ideas, and expand their potential (the Development Function). Figure 3 illustrates the general nature of this model. In the Functional Model O.C. occurs continuously as a part of the regular activities of the organization. As with the instrumental model individuals are seen as using communication to achieve their goals but the goals are not limited by the occasion. The Functional Approach allows for the individual or organizational pursuit of immediate goals such as informing, motivating, persuading, or entertaining. However, the real focus is on the pursuit of the functional goals including integration, coordination, innovation, development, self-regulation, and control. The organization and its environment are seen as generalized constraints on communication, not as the tight bonds of the Instrumental Approach and not the unlimited fields of the Process Approach.

Like the Process Approach, the Functional Approach sees communication as essential to the organization, but not as essential to every organizational process.

The O.C. Functions Approach emerged partially as a reaction to the excesses of the other two approaches and partially as a way to apply general systems theory concepts to O.C. phenomena. Rogers (1976) described how many of these concepts are applied. O.C. Functions research tends toward field studies evaluating the effects of concepts like uncertainty, interdependence, and organizational structure, on communication patterns and the effects of those patterns on organizational performance. For example, Maier's (1962) study of the effects of communication overload, Read's (1962) study of the effects of individual aspirations on information distortion, O'Reilly and Roberts' (1977) study of the effects of group structure on communication and in turn on effectiveness, Bacharach and Aiken's (1977) study of structural constraints on communication, and James and DeWine's (1982) study of the effects of technology on communication. There has been less research employing the Functional Approach than the other two approaches, but this seems to be only a matter of the recency of the approach. The Functional Approach is a balanced approach to O.C. It has appealed mostly to researchers who have come to the field with interdisciplinary backgrounds. By viewing communication as an important part of organizational life and an essential process for achieving certain outcomes, the Functional Approach claims a domain of significance broader than the instrumental view, yet narrower than the Process Approach. The central question for Functional research is "What does communication do?"

The domain claims made by the three approaches to O.C. can be justified empirically. Although, as stated earlier, there has not been enough research for this to happen as yet. The validity of the claims depend on answers to two domain issues. First, to what extent is O.C. limited by environmental, organizational, and individual factors? If the answer is that O.C. is very much

constrained by these factors (which the Instrumental Approach assumes) then its domain of significance is fairly small. If the answer is that O.C. is only moderately constrained or that O.C. exerts a reciprocal influence on these factors then the domain of significance is much larger (which is the claim of the Process Approach). Second, and more importantly, to what extent does O.C. influence other organizational factors? If communication is the cause of only marginal effects (the Instrumental view), then its domain of significance is small. If communication is the necessary condition (Functional view) or the sufficient cause (Process view) of important organizational effects, then its domain is large. Whatever the truth may be, the fact is that we don't know it yet.

ORGANIZATIONAL COMMUNICATION VARIABLES

The basic path to resolving our state of ignorance is more research. While this is hardly an original solution, it is a good one. We can add significantly to our understanding of O.C. by employing the models of relationships among variables which were described in the first section of this paper.

Our first question ought to be "What are the effects of O.C.?" We ought to be concerned both with the primary or main effects of O.C. and with the secondary or side effects. Regardless of the approach taken most students of O.C. accept the idea that communication has effects. The three approaches differ, however, in the specific effects they attribute to O.C. Figure 4 presents a comparison of the effects that each of the three approaches attribute to communication. As the figure suggests, the Instrumental Approach sees the main effects as outcomes of the communicator's intentions. These effects can be expected to appear almost immediately. The side effects are seen as the unintended consequences of communication or as a response to the main effects and the techniques used to achieve them. These effects should be expected to appear in the short term, after the main effects, but with some time lag. The main effects seen by the Process Approach are primarily results of participating

or not participating in communication activities. These effects should appear a short while (not immediately) after the activity. The side effects are longer term reactions to participating in communication and should appear over time as communication experiences accumulate. For the Functional Approach the main effects are seen as the culmination of long periods of communication experience. These effects are developed slowly and take a considerable amount of time (one to two years) to appear. The side effects, however, are responses to less extensive accumulations of experience and should appear before the main effects. In all cases these effects should be considered as variables which can have different values. Persuasion may fail as well as succeed. Agreement may be incomplete. Resistance may be slight. Development may be marginal.

Once we have specified the kinds of effects we are looking for in O.C. research we can begin viewing them as variables. And we can integrate them into more compled models of relationships among variables. This can lead us to what ought to be our second question--"How are O.C. variables related to one another." We ought to be concerned with all three kinds of variables While we might start with the Result Variables, those outcome variables which are the effects of O.C., we also need to be concerned with the Causal Variables, those independent variables which predict the effects, and with the Characteristic Variables, those descriptive variables which identify conditions of the unit of study. Figure 5 presents a comparison of some of the variables that each of the three approaches can/could include in O.C. research projects. As the figure shows, each of the three approaches tends to focus on different effects and therefore on different causes and conditions. In the Instrumental Approach the primary variables of study are speaker, message, and audience variables since these are not directly limited by the communication occasion. In the Process Approach the primary variables are the interpersonal and interaction pattern variables since these are assumed to control the outcomes. In the

Functional Approach the Primary Variables are the organizational and environmental constraints and the patterns of interaction and information processing which emerge within these constraints.

The lists of O.C. variables presented in Figure 5 are necessarily incomplete. However, careful examination of these lists suggests that each of the approaches attempts to study variables that are internally consistent in three important ways:

1. With the View of Communication
2. With the Model of O.C.
3. With the Domain of O.C.

When we are selecting variables for inclusion in O.C. studies we need to keep in mind the consistencies of past research. But if we are going to compare the three approaches we need to be willing to challenge the consistencies.

The concept of communication in instrumental research is a tool. In Pro-ess Research, communication is an event. In Functional research it is a series of events. If we were going to challenge any of these views of communication we would start by developing an alternative concept of communication. We could choose to view communication as a cost, a constraint, a value, or an artifact. To the best of my knowledge no research has been done using any of these conceptions of communication. We could then design studies to compare the results expected by our current concepts with those expected by our alternate concepts.

The models of O.C. can be directly tested against one another. For example studies to determine whether organizational structure determines communication patterns or communication patterns determine organizational structure would directly pit the Functional and Process models against each other. Studies to determine whether the effects of O.C. are the result of current strategies and effort or are the residuals of past strategies and efforts would allow us to compare the Instrumental and Functional models.

Studies to determine whether variances in results can be explained primarily by main effects of communicator efforts or by interactions of those efforts with post communication discussions among the people to whom the efforts were directed would allow comparisons between the Instrumental and Process models.

The Domain is the most easily tested. We can continue our research to determine the specific effects of O.C., the extensiveness of those effects, the significance of communication effects to the organization, and the extent to which those effects are unique to communication events and efforts. Doing any of these kinds of research, however, demands that we improve the power of our research designs and measuring techniques.

MEASURING ORGANIZATION COMMUNICATION VARIABLES

This brings us back to a point made earlier. The success of O.C. research will largely be determined by our success in defining and measuring O.C. variables. We have discussed what variables are; we have mentioned some of the variables which can be used in O.C. research; and we have discussed how those variables fit into models of O.C. Now we need to focus on the measurement of O.C. variables.

When we attempt to measure a variable we have several objectives which we are trying to achieve simultaneously. These objectives can be described as the criteria of good measurement. The most important criterion is Utility which is the degree to which the measure is useful to the user in accomplishing his/her purpose. The usefulness of a measure is its ability to help us answer our questions. In O.C. research we may be asking questions of existance, of causation, of relationships, of interaction, of results, of value, of ethics, of significance, of policy, of action or of principle. For a measure to be useful it must measure what we want it to measure. Thus the second criterion is Validity which is the degree to which the measure actually measures what it is supposed to measure. Much has been written about validity in organizational research and its importance

is well recognized. For a measure to be valid we must be sure that it can generate consistent results. The third criterion of good measurement is Reliability or the degree to which a measure is free from error. Indexes of Validity and Reliability can be computed and should be regularly reported in O.C. research. These criteria contribute to the scientific usefulness of a measure. On the organizational side a good measure must be Practical. Practicality is the degree to which a measure is economical to use and interpret while causing minimal organizational disruption. The fifth criterion of good measurement is Simplicity or the degree to which the measure is easy to administer and interpret. Figure 6 shows the relationships among these five criteria. As the figure suggests, when a measure is error free it is more likely to be valid. The variability we discover is more likely to come from the variable itself and not from some uncontrolled interference. When the measure is easy to administer and interpret it is more likely to be economical and less likely to be disruptive. When we have true measures which are administratively feasible we can use them to answer our questions with confidence.

Unfortunately it is very difficult to find measurement methods which achieve all of the criteria optimally. Thus in organizational research we are forced to make tradeoffs. Often we must trade simplicity for reliability. In short, sweet simple measures may not include enough items to be reliable. The reliable instrument may include so many items that it isn't simple.

Since the selection of measurement methods is so important to conducting truly useful O.C. research, let us review some of the techniques found in the literature. In general the techniques fall into four categories: Survey Questionnaire Methods, Interview Methods, Experimental Methods, and Observational Methods.

By far the most commonly used method is the Survey Questionnaire. There are at least seven surveys in the O.C. literature for every study using another method. Almost every multimethod study uses the survey. The main advantages

of the questionnaire are that it is inexpensive, uniform, voluntary, anonymous, mailable, and can reach large numbers of respondents. The main disadvantages are that it is inflexible, doesn't permit clarification, doesn't allow for explanation, and is easily misunderstood. Some questionnaires can produce low response rates, some are sensitive to missing data, some require considerable effort on the part of respondents. There are many kinds of questionnaires used in O.C. research. Attitude or opinion questionnaires attempt to determine what people think about a particular subject. An example is Stacks' (1974) measure of attitudes towards publications in O.C. Behavior questionnaires ask what people do or who talks to whom. An example is Davis' (1953) Measure of the Grapevine Using E.C.C.O. Analysis. Knowledge questionnaires ask what the person knows about a given subject. An example is Walton's (1962) measure of employee knowledge about current activities in a Naval Ordnance Test Station. Personality questionnaires attempt to identify key personality characteristics. An example is Hall's (1974) measure of personality traits and communication behaviors using the Johari Window. Value questionnaires attempt to identify the values or ethics of respondents. An example is Faules' (1976) measure of the effects of Value Systems on the Job. Construct questionnaires are attempts to develop multi-item measures of unobservable, nonobjective, or perceptual constructs. An example is Falcione's (1974) measure of supervisory source credibility.

A fair number of studies in O.C. use interview methods but usually as a supplement to questionnaires or observations. The main advantages of interview methods are that they are flexible, permit clarification, can reach all kinds of subjects, produce high response rates, permit some validation of responses, and collect richly detailed information. The primary disadvantages of interview methods are high cost, contamination, bias, irrelevant interaction, and meaningless questions. Where questionnaires are usually described by the type of information sought interviews are described by the methods used.

Among the various kinds of interview methods used in O.C. research are the nondirective interview, the semistructured interview, and the structured interview. Nondirective interviews provide the maximum freedom to discuss a subject in any specifics and depth that a respondent chooses. An example is the nondirective interview schedule used in the Hawthorne Studies. Semistructure interviews are characterized by structured sequences of questions which permit instructured responses. An example is Zima's (1968) measure of supervisory coaching-counselling behavior. By far semistructured interviews are the most common type found in the O.C. literature. Structured interviews are characterized by structured sets of questions leading to structured answers. An example can be found in Minter's (1969) comparison of various patterns of communication in two different managerial groups.

Despite the training of many O.C. researchers in Psychology and experimental design, relatively few O.C. studies are experiments. The major advantages of experiments are the high control, low cost, and potential for sophistication and subtlety. The prime disadvantages of experiments are their artificiality, abstractness, inflexibility, and limited generalizability. In experiments the independent variables are not so much measured as manipulated. The experimenter controls the variable and measures the results. Experiments are usually described by their location. A laboratory experiment is one conducted in an artificially created environment. An example is Leavitt's (1951) manipulation of communication networks by restricting opportunities for interaction. Field experiments are conducted in ongoing organizations. An example is Dahle's (1954) experiments on the effects of various communication media. Simulation experiments are attempts to replicate organizational processes often with the aid of a computer. An example is Krivonos' (1976) study of the effects of the situation on distortion of message contents.

Observational methods include a variety of techniques for giving structure to artifacts, products, or records of behavior. The main advantages of

observational methods are the ability to gather nonverbal data, the ability to make inferences, and the timliness of the data. The disadvantages are high costs, considerable time, reactivity, bias, and contamination. Many types of observational methods have been used in O.C. research. Structured observations include the shadowing of people to record how they spend their time. An example is Mintzberg's (1973) record of how manager's spend their time communicating. Event observations are methods for recording the specific interactions among people. Examples are Bales' (1950) Interaction Process Analysis (IPA) for studying small groups and Rogers and Farace's (1975) relational analysis. Participant observation methods require the person involved in the event to record what happened. An example is Roy's (1960) discussion of communication themes in a small work group. The Diary or Log is a method in which the individual records his or her own behavior. An example is found in Conrath's (1973) study of the relationship between organizational structure and communication patterns. Case studies are more detailed reports of observations (and interviews) conducted over a period of time but revolving around a specific event or decision. An example is Huseman, Hayes, and Alexander's (1977) case study of the introduction of a new customer service concept in a bank. Two other observational methods involve the analysis of documents rather than interactions. Content analysis involves the examination of materials to determine the nature of the topics discussed. An example is Haas and Zagat's (1958) comparison of Union Journals vs. Company magazines. Readability Analysis attempts to determine just how difficult certain materials are to read. An example is Davis' (1968) analysis of changes in employee handbooks over a fifteen year period.

Obviously there are many techniques available to the researcher for measuring O.C. variables. A more thorough discussion of these research methods is beyond the scope of this paper. Moreover, such a discussion is beyond the purpose of this paper. The researcher who is attempting to measure O.C. variables

needs to have a sense of the strengths and limits of each of these methods as they relate to the process of measurement. Figure 7 shows how each of these methods is likely to perform on several measurement evaluation criteria. If we are going to focus our research on clarifying the domain of O.C. then two of the evaluative criteria are especially important. The first criterion, Generalizability, suggests that some methods of measuring variables have more potential for generating results which have significance across a broad spectrum of organizational populations. The more our findings about O.C. can be generalized, the more important communication is to organizational theory, and the larger the domain of O.C. that can be justified. As the figure suggests there are several measurement methods which are high in generalizability: opinion/attitude questionnaires, behavior questionnaires, construct questionnaires, semistructured interviews, structured interviews, field experiments, and structured observations. The last criterion, Strength of Independent Variables, suggests that some measurement methods provide greater opportunities for the independent or causal variables to influence results. The greater the affect of communication variables on the organization, the greater their importance to organizations, and the greater the significance of O.C. If we cannot discover significant effects when communication variables are strong, there is little reason to believe that we will find significant effects when they are weak. Among the measurement methods which allow strong independent variables to emerge are opinion/attitude questionnaires, behavior questionnaires, knowledge questionnaires, construct questionnaires, structured observations, event observations, participant observations, and case studies. By focusing our research attentions on those measurement methods which permit generalization and which permit strong causal variables to emerge, we can maximize the payoff of our research efforts.

THE DOMAIN OF ORGANIZATIONAL COMMUNICATION

More than just maximizing our payoff, by calling attention to domain issues we are examining the real significance of O.C. We will find ourselves

asking some very important basic questions. What are the consequences of communication? Are these consequences important to people? Are these consequences important to organizations? Are these results desirable? Can communication achieve desirable effects? How? Can we improve O.C.? How? Should we improve O.C.? Why? Asking the right questions is not without risk. We might very well discover that communication is a common organizational phenomenon but not a particularly significant one. We might discover that the effects of communication can be produced more economically, efficiently, and effectively through other means. It is quite possible that those of us who believe in the importance of communication to organizational theory and practice will be proven wrong. But I think not. And even if this were likely, we should attempt to answer these questions any way.

By asking questions about the effects of O.C. and the significance of those effects, we can advance our knowledge of communication, we can advance our knowledge of organizations, and we can contribute to the improvement of the institutions in which our society, our economy, and our way of life are based. After all, that is the justification of academic research--to expand knowledge in useful ways. The prospect is exciting.

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Figure 1

An Instrumental Model of O.C.

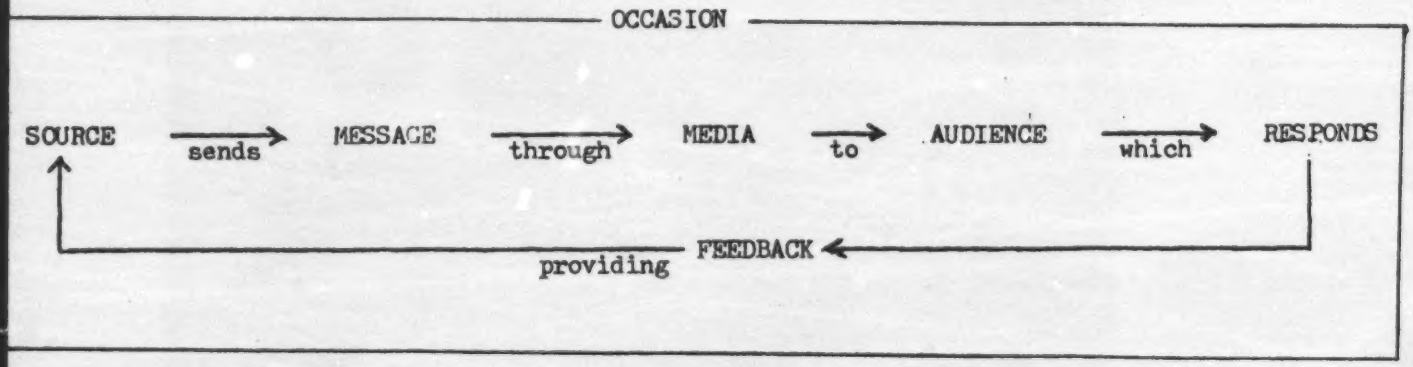


Figure 2

A Process Model of O.C.

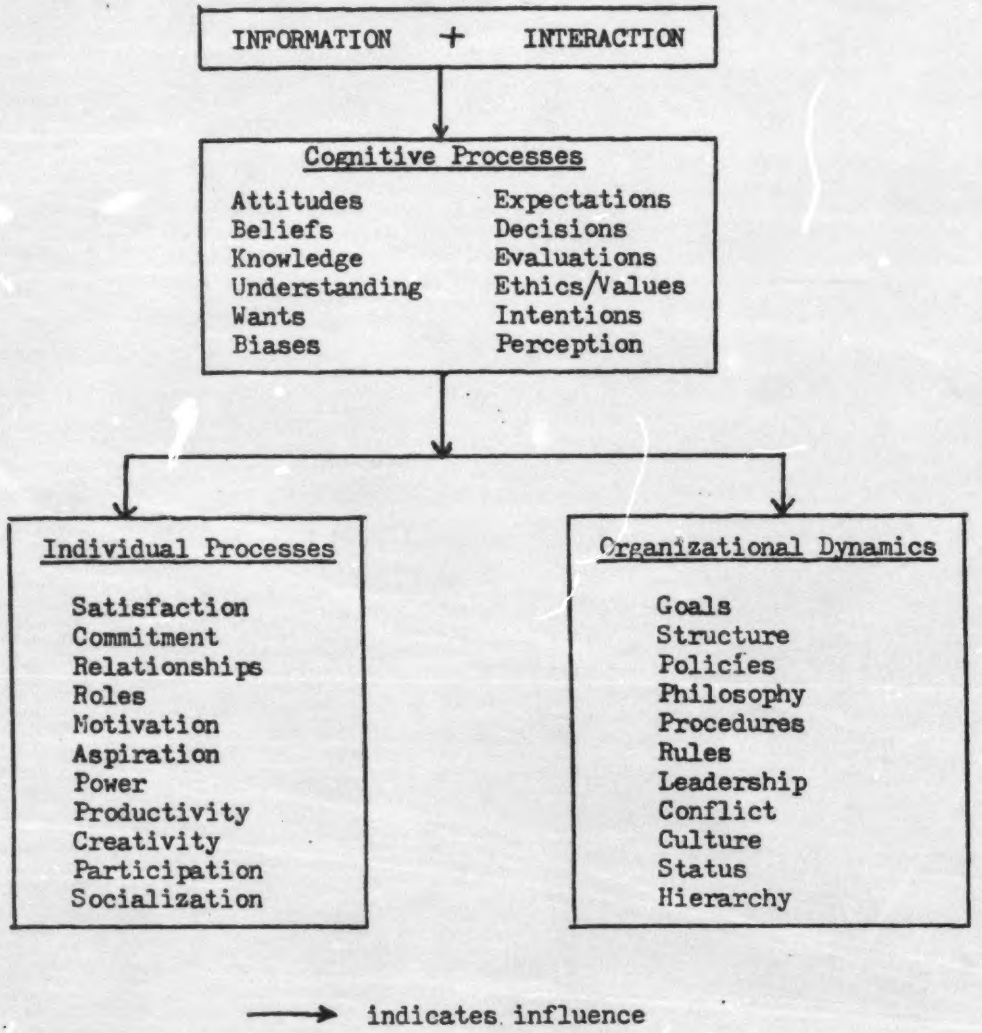
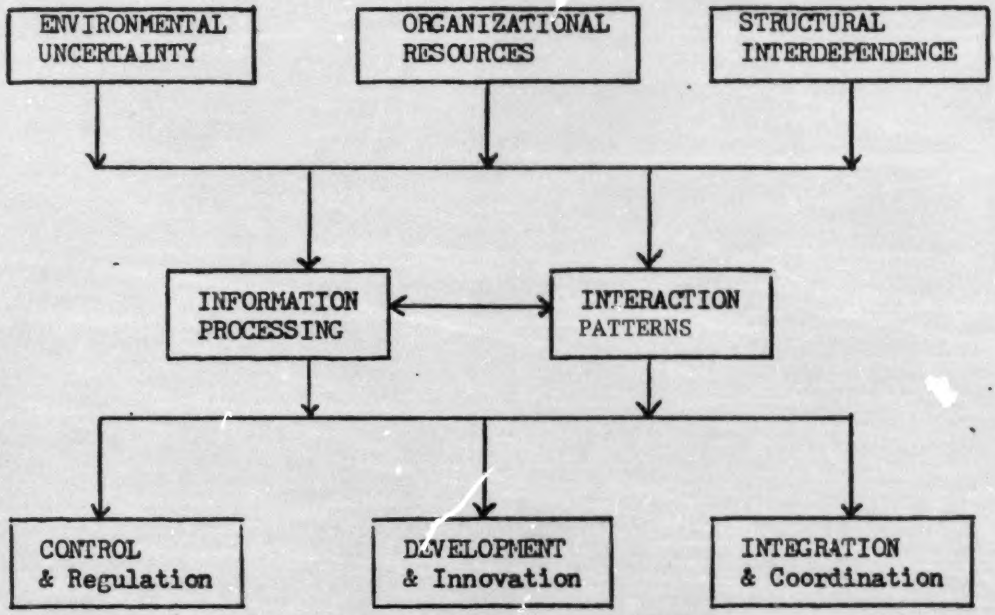


Figure 3

A Functional Model of O.C.



→ indicates influence

Figure 4

A Comparison of Effects Attributed to Communication
by the Three O.C. Approaches

	MAIN EFFECTS	SIDE EFFECTS
INSTRUMENTAL APPROACH	Information Persuasion Entertainment	Understanding Resistance Change Enjoyment
PROGESS APPROACH	Satisfaction Awareness Agreement Consensus Joint Action	Frustration Stress Dependence Commonality Solidarity Cooperation Competition
FUNCTIONAL APPROACH	Intergration Regulation Development	Anomie Creativity Growth Self Control

Figure 5

A Comparison of Variables Derived from the Three O.C. RESEARCH Models

	RESULTS Outcome Variables	CAUSES Predictor Variables	CHARACTERISTICS Descriptive Variables
INSTRUMENTAL APPROACH MODEL	knowledge learning attitude change behavior change enjoyment understanding resistance acceptance compliance frustration hostility effectiveness	credibility fluency verbosity responsiveness receptivity message clarity appeals intensity media noise effort expense trust	communicator demographics audience demographics intentions occasion time location context purposes
PROCESS APPROACH MODEL	satisfaction awareness agreement joint action frustration stress commonality solidarity competition cooperation loyalty productivity cohesiveness commitment	participation duration rules barriers frequency abilities trust agenda openness conflict feedback receptivity responsiveness self awareness behavior cues	homogeneity interdependency roles personalities number of participants attitudes preferences emotions context purposes proximity
FUNCTIONAL APPROACH MODEL	integration coordination regulation control development innovation effectiveness efficiency	consistency redundancy feedback information flow information adequacy speed costs frequency duration	openness uncertainty complexity structure formalization capacity proximity size/number constraints ambiguity interdependency

Figure 6

Relationships Among the Five Criteria of Good Measurement

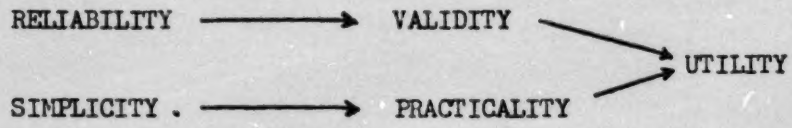


Figure 7

Factors to Consider in Selecting Measurement Methods

Levels of Evaluation
H high
M moderate
L low

EVALUATION CRITERIA	Questionnaires: Opinion Q.	Behavior Q.	Knowledge Q.	Personality Q.	Value Q.	Construct Q.	Interviews: Nondirective I.	Semistructured I.	Structured I.	Experiments: Laboratory E.	Field E.	Simulation E.	Observations: Structured O.	Event O.	Diary/Log O.	Participant O.	Case Study O.	Content Analysis	Readability O.
INSTRUMENT CRITERIA																			
GENERALIZABILITY	H	H	M	M	M	H	L	M	H	M	H	M	H	M	M	L	L	M	M
VALIDITY	M	M	M	H	M	H	M	H	H	M	L	M	M	H	L	L	L	H	H
RELIABILITY	H	M	M	M	M	H	L	M	M	H	M	H	H	H	M	L	L	H	H
CONTROL OF VARIABLES	H	H	H	H	H	H	L	M	M	H	M	H	L	L	L	L	L	M	M
POTENTIAL FOR CONTAMINATION	M	M	M	M	M	M	L	M	M	H	M	H	H	M	H	H	H	M	M
RICHNESS OF DATA	M	M	M	M	M	M	H	H	M	L	L	L	M	M	M	H	H	L	L
FLEXIBILITY	M	M	M	M	M	M	H	H	M	L	M	L	L	L	L	M	M	L	L
EASE OF ADMINISTRATION	H	H	H	H	H	H	L	M	M	M	L	M	L	L	L	L	L	M	M
RESPONSE RATE	M	M	M	L	L	H	H	H	H	H	M	H	M	M	L	H	M	H	H
CODABILITY	H	H	H	H	H	H	L	M	H	H	M	H	H	H	H	L	L	M	H
EASE OF INTERPRETATION	M	M	L	L	L	M	L	M	M	H	M	H	M	M	L	L	M	L	L
ORGANIZATIONAL CRITERIA																			
FINANCIAL COSTS	M	M	M	M	M	M	H	H	H	M	H	M	H	H	H	H	H	M	M
PERSONNEL COSTS	L	L	L	L	L	L	H	H	H	L	M	L	H	H	H	H	M	M	M
TIME REQUIRED	L	L	L	L	L	L	H	H	H	L	H	H	H	M	H	H	H	M	M
EFFORT REQUIRED	L	L	L	L	L	L	M	M	M	H	H	H	H	H	H	H	H	L	L
SPACE REQUIRED	L	L	L	L	L	L	M	M	M	H	M	M	L	L	L	L	L	L	L
DISRUPTION	M	M	M	M	M	M	H	H	H	L	M	L	H	M	H	M	M	L	L
PERSONAL RISK	M	M	M	H	H	L	H	H	H	L	M	L	M	M	M	H	M	L	L
ARTIFICIALITY OF SETTING	L	L	L	L	L	L	L	L	L	H	L	H	L	L	H	H	M	L	L
STRENGTH OF CAUSAL VARIABLES	H	H	H	M	M	H	L	L	L	L	M	L	H	H	M	H	H	M	M